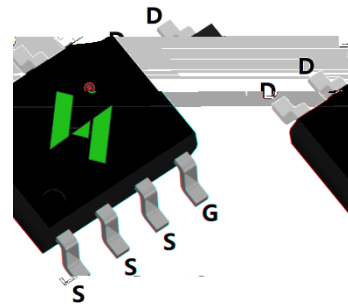


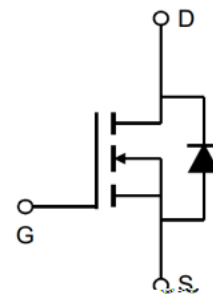
N-Channel Enhancement Mode MOSFET

40V/19A
 $R_{DS(ON)} = 5.3m$ (typ.) @ $V_{GS} = 10V$
 $R_{DS(ON)} = 6.0m$ (typ.) @ $V_{GS} = 4.5V$
 100% Avalanche Tested
 Reliable and Rugged
 Halogen Free and Green Devices Available
 (RoHS Compliant)



SOP8L

Power Management for DC/DC
 Switching application



N-Channel MOSFET

| | |
|--|---|
|  S HY1904 YYXXXJWW G | Package Code S: SOP8L Date Code YYXXX WW |
| | Assembly Material G: Halogen Free |

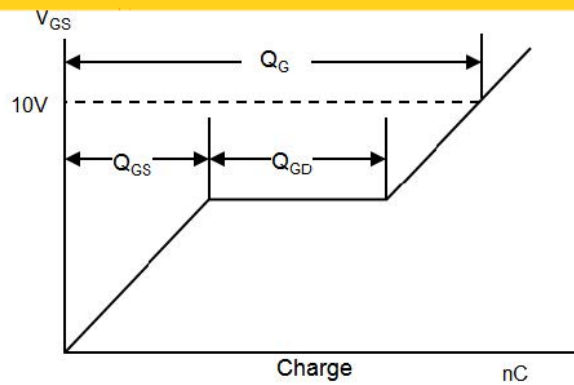
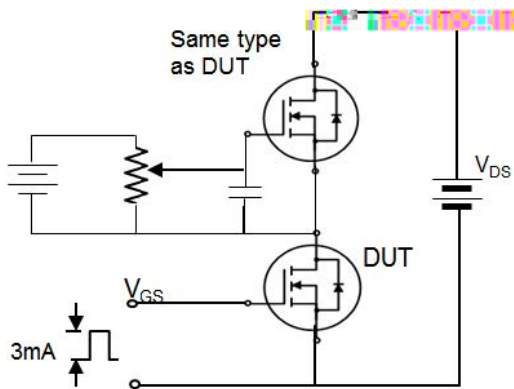
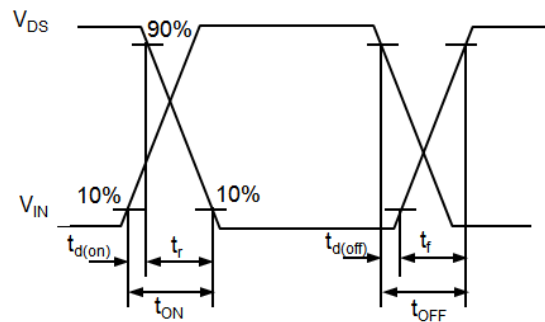
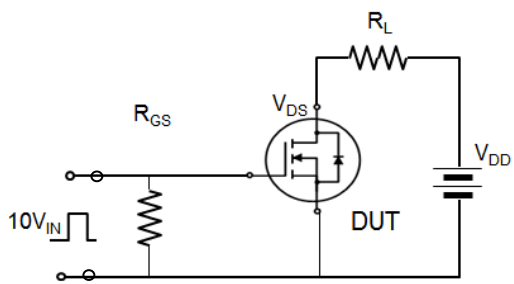
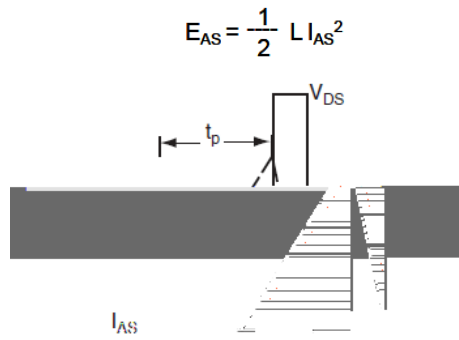
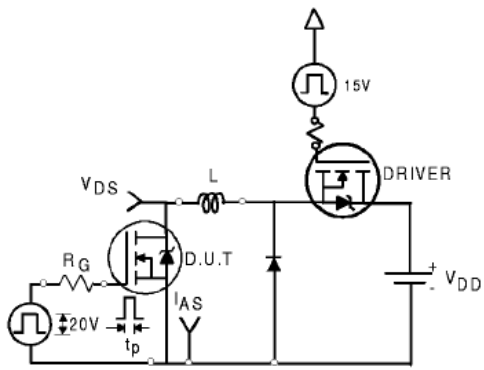
(Tc =25°C Unless Otherwise Noted)

| | | | | | | | |
|----------------|-----------------|--|---|-----|---|--|---|
| | | | | | | | |
| R _G | Gate Resistance | V _{GS} =0V, V _{DS} =0V, F=1 MHz | - | 1.6 | - | | Ω |

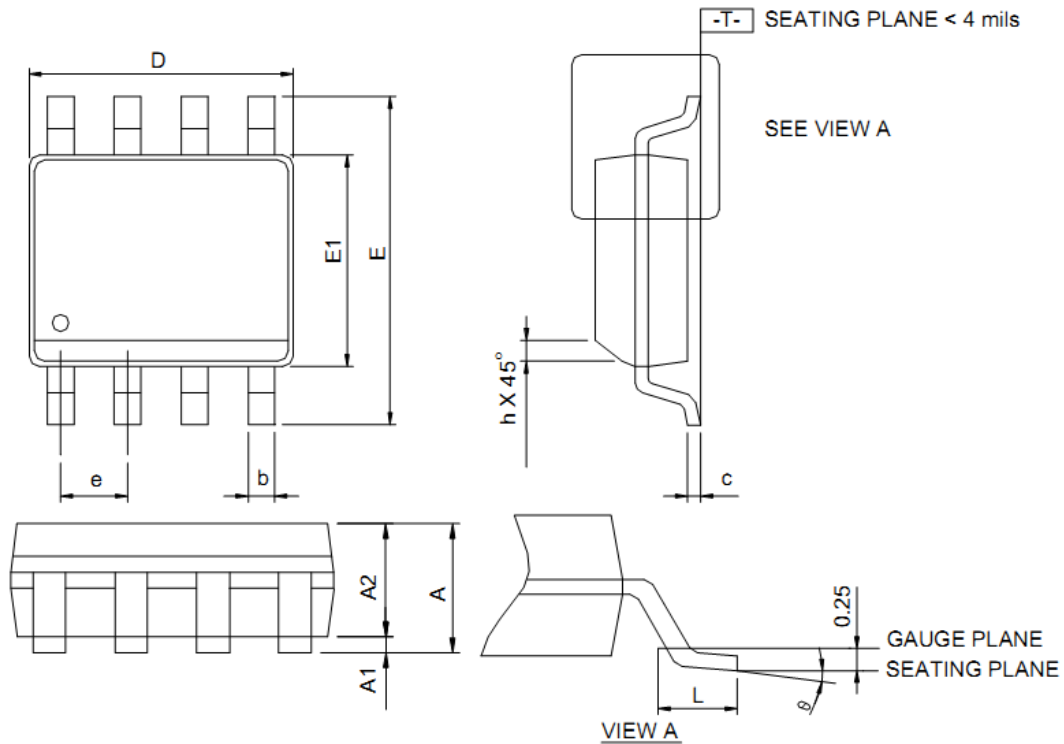
Tc-Case Temperature()

Tc-Case Temperature()



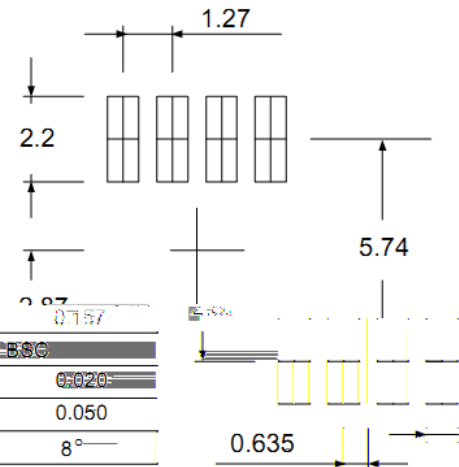


| | | |
|-------|------|------|
| SOP8L | Reel | 2500 |
|-------|------|------|



| DIMENSIONS | SOP8L | | | |
|------------|-------------|------|--------|-------|
| | MILLIMETERS | | INCHES | |
| | MIN. | MAX. | MIN. | MAX. |
| A | - | 1.75 | - | 0.069 |
| A1 | 0.10 | 0.25 | 0.004 | 0.010 |
| A2 | 1.25 | - | 0.049 | - |
| b | 0.31 | 0.51 | 0.012 | 0.020 |
| c | 0.17 | 0.25 | 0.007 | 0.010 |
| D | 4.80 | 5.00 | 0.189 | 0.197 |
| E | 5.80 | 6.20 | 0.228 | 0.244 |

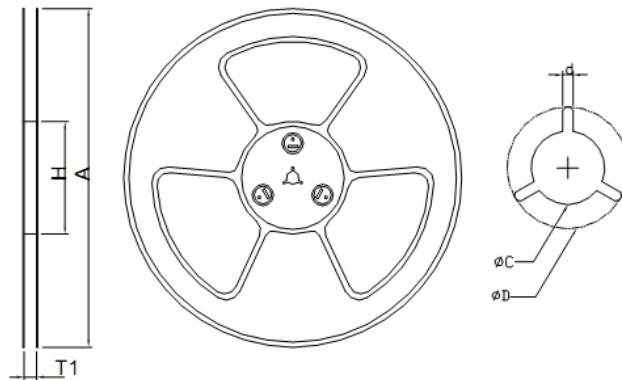
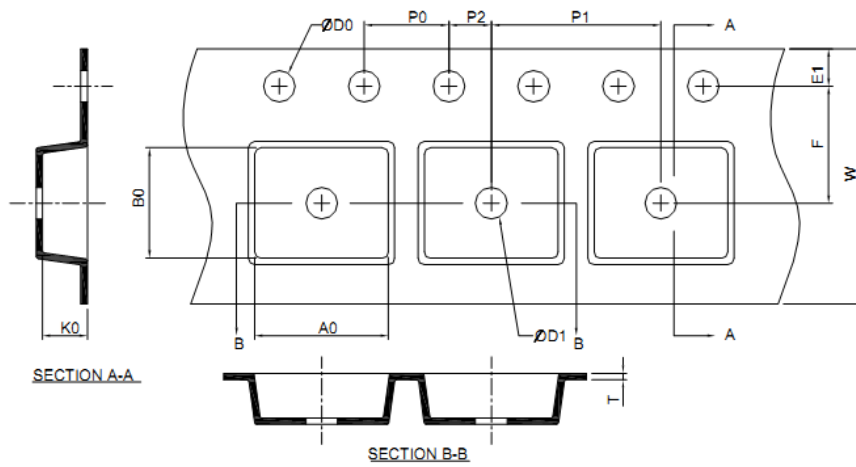
RECOMMENDED LAND PATTERN



| | | | | |
|----|----------|------|-----------|-------|
| A1 | 0.10 | 0.25 | 0.004 | 0.010 |
| e | 1.27 BSC | | 0.050 BSC | |
| h | 0.25 | 0.50 | 0.010 | 0.020 |
| L | 0.40 | 1.27 | 0.016 | 0.050 |
| θ | 0° | 8° | 0° | 8° |

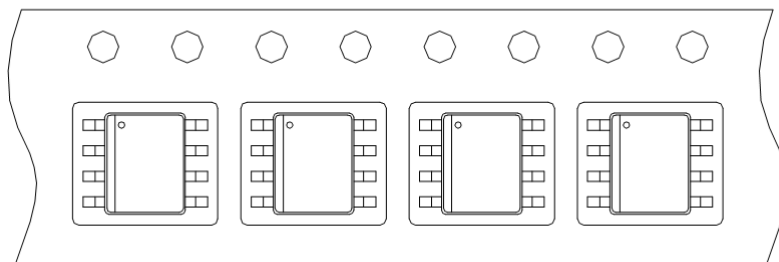
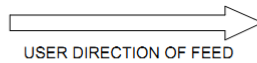
no burrs
r side.
s.
ice.

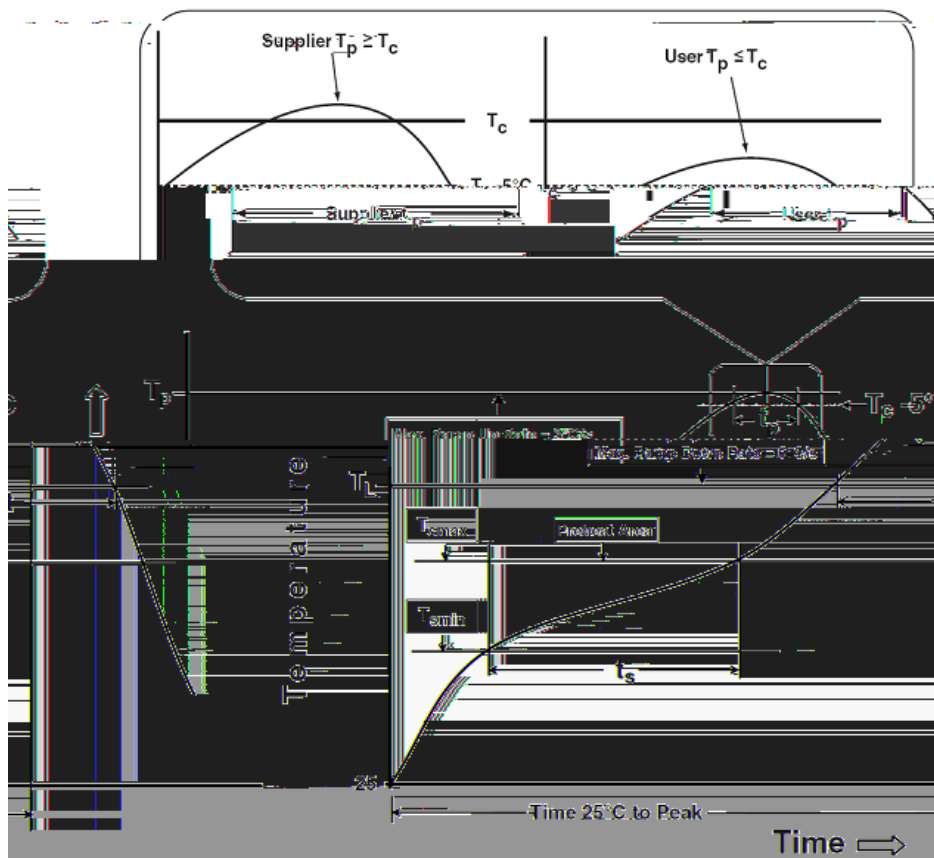
- Dimension L does not include mold flash, protrusions or gate burrs. Mold flash, protrusion or gate burrs shall not exceed 6 mil per side.
- Dimension E does not include inter-lead flash or protrusion. Inter-lead flash and protrusions shall not exceed 10 mil per side.



| Application | A | H | T1 | C | d | D | W | F1 | F |
|-------------|----------|----------|----------|-------------------|----------|-------------------|-----------|-----------|-----------|
| SOP8L | 4.0 0.10 | 8.0 0.10 | 2.0 0.05 | 1.5+0.10 -0.00 | 1.5 MIN. | 0.6+0.00 -0.40 | 6.40 0.20 | 5.20 0.20 | 2.10 0.20 |

(mm)





| | | |
|--|------------------------------------|------------------------------------|
| Temperature min (T_{smin}) | 100 °C | 150 °C |
| Temperature max (T_{smax}) | 150 °C | 200 °C |
| Time (T_{smin} to T_{smax}) (t_s) | 60-120 seconds | 60-120 seconds |
| Average ramp-up rate (T_{smax} to T_P) | 3 °C/second max. | 3°C/second max. |
| Liquidous temperature (T_L) | 183 °C | 217 °C |
| Time at liquidous (t_L) | 60-150 seconds | 60-150 seconds |
| Peak package body Temperature (T_P)* | See Classification Temp in table 1 | See Classification Temp in table 2 |
| Time (t_P)** within 5°C of the specified classification temperature (T_c) | 20** seconds | 30** seconds |
| Average ramp-down rate (T_P to T_{smax}) | 6 °C/second max. | 6 °C/second max. |
| Time 25°C to peak temperature | 6 minutes max. | 8 minutes max. |
| *Tolerance for peak profile Temperature (T_P) is defined as a supplier minimum and a user maximum. | | |
| ** Tolerance for time at peak profile temperature (t_P) is defined as a supplier minimum and a user maximum. | | |

Table 1.SnPb Eutectic Process – Classification Temperatures (Tc)

| | | |
|--------|--------|--------|
| | | |
| 2.5 mm | 235 °C | 220 °C |
| 2.5 mm | 220 °C | 220 °C |

Table 2.Pb-free Process – Classification Temperatures (Tc)

| | | | |
|-----------------|--------|--------|--------|
| | | | |
| <1.6 mm | 260 °C | 260 °C | 260 °C |
| 1.6 mm – 2.5 mm | 260 °C | 250 °C | 245 °C |
| 2.5 mm | 250 °C | 245 °C | 245 °C |

| | | |
|---------------|---------------|---------------------------------------|
| | | |
| SOLDERABILITY | JESD-22, B102 | 5 Sec, 245°C |
| HTRB | JESD-22, A108 | 168 Hrs/500 Hrs/1000Hrs, Bias @ 150°C |
| PCT | JESD-22, A102 | 96 Hrs, 100%RH, 2atm, 121°C |
| TCT | JESD-22, A104 | 500 Cycles, -55°C~150°C |

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